



## Scot Frank

Electrical Engineering & Computer Science, 2009

Internship at One Earth Designs International

Co-Invented the SolSource a low-cost and portable solar concentrator that meets the fuel needs of rural populations in the Himalayas

Shown (L-R): Scot Frank, Catlin Powers, Amy Qian; Co-inventors of the SolSource

## The Project:

The SolSource solar solution harnesses the sun's energy for both cooking and heating and has the potential to abate 70% of rural household biomass emissions. Since light energy collected by the device is always in use, energy efficiency is maximized. Unwanted fires and dangerous exposures to the focus are also avoided by this strategy. The SolSource:



- Provides both cooking and heating functionalities
- Wind and weather resistant
- Height eliminates need for squatting
- Energy efficiency prevents fires and injuries

- Portable: light-weight & foldable
- Accommodates traditional cooking practices
- Made from local, traditional, and low-tech materials
- Low maintenance & transparent
- Affordable relative to alternatives

## Impact:

Reduction in fuel collection time, indoor air pollution, environmental and health effects. This provides women and children with educational and income generation opportunities.



Collaboration of communities, NGOs, universities, and researchers to address water, energy, and health problems faced in rural areas of the Himalayas.

## The Community:

*"Every year in the winter, I have pain in my lungs and cough a lot. I thought it was from the cold, but the doctor told me it is bronchitis. He said it was from breathing smoke."*

Sonam Doomtso, resident of Quma Village (translation by Dorji Drolma)



*"With a stove we can heat the house, but we cannot do so with a solar cooker...Even if we cook on a solar cooker, we still need to heat the house."*

Lamatsira, resident of Awuju village (translation by Dorjee Dondrub)



## Preparation:

- Coursework:
- Language classes at MIT and Harvard
  - Business and entrepreneurship
  - History and culture
  - Engineering



- Device design and construction: Amy Qian
- Collaborators and advisors at MIT in Mechanical Engineering, Electrical Engineering, Media Lab. MIT Electric Research Society shop use.
- Communication with community members

## Life in western China:



## Back at MIT:



Co-founded One Earth Designs, an NGO that provides science and engineering support to community-based development projects in the rural Himalayas

Continued and expanded involvement in community and projects, including HeatSource, EnergySource, and WatMap